DEPARTMENT OF ENERGY (DOE) NATIONAL ENERGY TEHCNOLOGY LABORATORY (NETL)

SOLID STATE ENERGY CONVERSION ALLIANCE (SECA) CORE TECHNOLOGY PROGRAM FUNDING OPPORTUNITY

The Department of Energy (DOE) National Energy Technology Laboratory (NETL) is seeking applications for the funding opportunity announcement entitled, "Solid State Energy Conversion Alliance (SECA) Core Technology Program." The purpose of the SECA Core Technology announcement is to develop science and technologies that address specific technical challenges and barriers faced by the SECA Industrial Teams. The DOE goal for SECA Industrial Teams is to develop a 3 kilowatt (kW) - 10kW solid-oxide fuel cell system including stack and balance of plant that has a Factory Cost of $400/kW by 2010. The goal is to develop solid-oxide fuel cell power systems that have broad applicability via use of mass customization techniques. Development of solid-oxide fuel cell power systems that are applicable to stationary, mobile, and military applications with minimal differences in core module components is desired. DOE considers the development of "high power density" (e.g., > 500mW/cm2) solid-oxide fuel cells an important component for meeting the 2010 cost goal. A goal of DOE is to encourage the high volume (>50,000 stack modules) entry of one or more fuel cell systems developed in the SECA program into one or more commercial markets at the earliest possible date.

The Core Technology Program will be instrumental in developing science and technologies that resolve specific technical challenges and barriers faced by the SECA Industrial Teams in meeting the DOE goals for the SECA program. This Core Technology announcement focuses on specific sub-areas of interest under the following two Core Technology areas of interest:

1. Materials
2. Fuel Processing

The topics and sub-topics within these areas of interest are listed below:

1. Seals
    a. Rigid, High-Strength Sealing Concepts
    b. Innovative Sealing Concepts
2. Interconnect
    a. Material for SOFC Cathode/Interconnect Interface
    b. Identify/develop Interconnect Materials
3. Electrodes
    a. Infiltration of Active Elements into SOFC Electrode Structures
    b. Quantification and Understanding of Cr Poisoning of Cathode Activity
4. Fuel Processing
    a. Sulfur and Carbon Tolerant Diesel Fuel Reformation Catalysts
    b. Alternative Reforming Concepts
    c. Technology for Logistic Fuel Applications

Applicants for this funding opportunity are instructed to first submit a four page pre-application by December 1, 2004. It will go through an internal merit review process and if selected, the applicant will be instructed to submit a full application by January 18, 2005. Anticipated award date is April 19, 2005. Phase I will be for a period of twelve months. Awards made under this announcement will be for Phase I only. Only Phase I awardees will be eligible to submit a renewal application for Phase II. Phase II will consist of two one-year budget periods with a requirement that the project be reviewed for continued relevancy to the SECA Core program objectives prior to continuation into the second budget period of Phase II. DOE anticipates that awards will be in the $125,000 range for Phase I ($100,000 DOE Share and at least 20% Cost Share) and in the $250,000 range for Phase II ($200,000 DOE Share and at least 20% cost share).